Shayan Huda Chowdhury

1051 Riverside Drive, Room 4914C, New York, NY 10032   Phone: +1 646-470-7643   Website: shayan.tech   Email: sc4040@columbia.edu

EDUCATION Columbia University, New York, NY: BA - Data Science & Public Policy (Dean's List)   **Expected Graduation: 2025**

Previous: Stuyvesant High School, New York, NY   Graduation: 2019

Honors & Awards: Climate Reality Corp Leadership Award by fmr. U.S. Vice President Al Gore ('22), Columbia University Distinguished New Student Scholarship ('22), Daniel Bergstein Memorial Scholarship ('19), AP Scholar w/ Distinction ('19), Gates Scholarship Finalist ('19), Elizabeth Piper Scholarship ('18), Stand Up to Cancer Award for Lung Cancer Research at the New York Genome Center and Weill Cornell Medical College ('17)

EXPERIENCE

Research Assistant, Fifer Lab, Columbia University Irving Medical Center, New York   **August 2021 – present**
- Improving access to low-cost technologies for preventing fetal miscarriages and stillbirths, especially in LMICs like India and South Africa
- Building self-supervised machine learning models for clinical usage on real-time fetal and maternal electrocardiogram (ECG) data
- Developed and published a novel signal processing algorithm to separate out maternal and fetal ECG signals from abdominal ECG data

Executive Director & Founder, Reach4Help, Montréal, Canada   **March 2020 – present**
- Leading Reach4Help, a tech nonprofit coordinating humanitarian aid logistics for remote and underserved communities across 38+ countries
- Managed a team of 30 to develop a FOSS need-matching platform coordinating food banks and clothes drives for 6K+ low-income communities
- Developed a global map of aid, serving as the backbone for logistical coordination of volunteer help for 10K+ organizations through the COVID-19 pandemic, Mexican earthquake, California wildfires, Ukrainian invasion, Pakistan+Bangladesh floods, etc.
- Raised $120K from Google for Nonprofits and $106K in in-kind donations from Google, Slack, Algolia, etc.
- Collaborated with the World Economic Forum's Global Shapers in Europe to raise €170K+ for Ukraine medical aid relief
- Collaborated with BRAC, JAAGO Foundation and other NGOs to serve 58K+ households during the 2022 Bangladesh and Pakistan floods

Global Shaper, Incoming Vice-Curator & Climate Reality Corp Leader, World Economic Forum, Geneva, Switzerland   **August 2021 – present**
- Selected as the youngest Global Shaper by the World Economic Forum for work on Reach4Help
- Led SupportUkraineNow projects reaching 1M+ Ukrainians on refugee aid, fundraising and mental health support as U.S. co-ambassador
- Won a grant from Al Gore's Climate Reality Project to scale up education policy solutions for 1800+ students in Bangladesh and now in NYC
- Elected to be the incoming Vice-Curator at the New York City Queens Hub for global representation and local leadership on hub projects

Director of Mentorship and Education, Coronavirus Visualization Team, Harvard University, Cambridge, MA   **October 2022 – present**
- Mentoring students on research, data analysis, AI, and technical writing: https://scholar.harvard.edu/cvt/people/shayan-chowdhury
- Connecting 280+ research students to professors and principal investigators at Columbia, Harvard, and other academic institutions

Lead Data Analyst, a2i Programme, ICT Ministry / Cabinet Division / UNDP Bangladesh   **March 2020 – January 2022**
- Appointed to the National COVID-19 Policy Dashboard Committee of the Bangladesh Government for the Ministries of Health and IT
- Developed COVID-19 data collection tools and modeled its spread to inform public policy on lockdowns, public health comms and healthcare decisions
- Analyzed data on tests, cases, deaths, hospitalizations, and mobility for the Directorate General of Health Services and Institute of Epidemiology with epidemiologists and data scientists from Harvard, MIT, Columbia and UC Berkeley

Software Developer, Migrant Nation Foundation, The Netherlands / UNDP Bangladesh   **October 2019 – June 2020**
- Developed a pioneering "Right to Work" e-commerce marketplace for Rohingya refugees with UNDP, UNHCR, and WFP in Bangladesh to enable the refugees to produce and sell products to consumers worldwide on Amazon, Etsy, Alibaba, and other international markets
- Built a mobile app being used in the camps to pay hourly wages in accordance with the ILO's decent work practices

Research Intern, Frank Lab: Nobel Laureate Joachim Frank, Columbia University, New York   **September 2018 – November 2019**
- Created the highest resolution 3D reconstruction of 40S eukaryotic ribosome subunit to reverse engineer the mechanism of protein synthesis
- Fine-tuned bioinformatics tools to increase the accuracy of protein detection and reconstruction in noisy electron microscope images at 1.5 Å

Machine Learning Project Lead, Google Mentorship Program, Google, New York   **October 2018 – June 2019**
- Led a Stuyvesant HS team to develop a LSTM-based machine learning model capable of understanding human emotions from voice intonations for use in digital personal assistants, medical applications, and improving accessibility for those with speech disabilities.

PROGRAMMING / LANGUAGES: Python, R, JavaScript/TypeScript, MATLAB, Java, C#, C++, Rust, Dart, SQL / Bangla (native), Spanish and Latin (int.)

SELECTED RESEARCH PUBLICATIONS (LINK TO RESEARCHGATE WITH ALL)

- **Chowdhury S.**, Frasch M. G, Wu H., Lucchini M., Shuffrey L. C., Sania A., Malette C., Odendaal H. J., Myers M. M., Fifer W. P, Pini N. (2022). A Novel Method for the Extraction of Fetal ECG Signals from Wearable Devices. *44th Int'l IEEE* Engineering in *Medicine & Bio Conf. (EMBC)*.
- Mahmud, A. S., **Chowdhury, S.**, Sojib, K. H., Chowdhury, A., Quader, M. T., Paul, S., ... & Buckee, C. O. (2021). Participatory syndromic surveillance as a tool for tracking COVID-19 in Bangladesh. *Epidemics*, 35, 100462.
- Chadwick, F., Clark, J., **Chowdhury, S.**, … & Sania, A. (2022). Combining Rapid Antigen Testing and Syndromic Surveillance Improves Sensitivity and Specificity of COVID-19 Detection: A Community-Based Prospective Diagnostic Study. *Nature Communications*, 13, 2877.
- Ferguson E. A., Brum, E., Chowdhury, A., **Chowdhury, S.**, Kundegorski, M., … & Hampson, K. (2022). Modelling how face masks and symptoms-based quarantine synergistically and cost-effectively reduce SARS-CoV-2 transmission in Bangladesh. Epidemics, 40, 100592.
- Brum, E., Saha, S., Sania, …, **Chowdhury, S.**, Haddou, Y., Ferguson, E., Kundegorski, M., Purno, N., Tasneem, M., … Hampson, K. (2021). Surging COVID-19 in Bangladesh driven by B.1.351 variant. *Preprint for Lancet Global Health*.

SPEAKING ENGAGEMENTS, EVENTS & PRESS COVERAGE

- Invited to speak at **Princeton University's Youth Climate & Conservation Summit (YCCS)** in **Princeton, New Jersey** on climate finance   **Apr 2023**
- Invited to speak at **The Aspen Institute's Future Leaders Climate Summit** in **Miami, Florida** on climate change public policy advocacy   **Mar 2023**
- Invited to attend the **MIT Sloan Healthcare and BioInnovations Conference** in **Cambridge, Massachusetts** on biotech research   **Feb 2023**
- Invited to speak at the **World Economic Forum Annual Meeting** in **Davos, Switzerland** on Reach4Help's data-driven crisis aid allocation   **Jan 2023**
- Presented as lead author at the **International Society for Developmental Psychobiology (ISDP) Conference** in **San Diego, California**   **Nov 2022**
- Spoke on **"The Roadmap to Resources: How Reach4Help Leads People in Need"** at **Google HQ** in **Mountain View, California**   **Oct 2022**
- Spoke at the **Climate Changemakers Digital Innovation for Youth Conference** at the **United Nations Headquarters** in **New York**   **Sep 2022**
- Invited to **The New York Times' Climate Forward** event to meet John Kerry, the US Presidential Envoy for Climate in **New York**   **Sep 2022**
- Spoke at the **International Youth Conference** in **Cambridge, Massachusetts** on entrepreneurship and public policy advocacy   **Sep 2022**
- Presented as lead author at the **44th Int'l IEEE Engineering in Medicine & Biology Conference** (EMBC) in **Glasgow, Scotland**   **Jul 2022**
- Covered in a news article by **The Daily Star**, the most widely circulated newspaper in **Bangladesh**   **Mar 2022**